10/519501 DT01 Rec'd PCT/PTC 27 DEC 2004

Preliminary Amendment Application No.: filed concurrently December 27, 2004

## IN THE CLAIMS

Please substitute the following claims for the pending claims with the same numbers respectively:

Claim 1 (Currently amended): A nitride semiconductor laser device provided with a window layer on a light-emitting end face of the a resonator which comprises an active layer of a nitride semiconductor between the n-type nitride semiconductor layers and the p-type nitride semiconductor layers, characterized in that wherein:

at least the <u>a</u> radiation-emitting end face of said resonator is covered by said window layer comprising monocrystalline nitride of general formula  $Al_xGa_{1-x-y}In_yN$ , where  $0 \le x+y \le 1$ ,  $0 \le x \le 1$  and  $0 \le y < 1$ , especially nitride of general formula  $Al_xGa_{1-x}N$  ( $0 \le x \le 1$ ) having a wider energy gap than that of the <u>a</u> active layer and being formed at a low temperature so as not to damage said active layer.

Claim 2 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the a thickness of the end face window layer is higher than 50 Å,

and is equal to  $\underline{an}$  integer multiplicity of the emitted radiation wave length wavelength (n $\lambda$ ).

Claim 3 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the end face window layer is of monocrystalline  $Al_xGa_{1-x}N$  (0 $\leq x\leq 1$ ) and is formed in the a supercritical ammonia-containing solution.

Claim 4 (Currently amended): The nitride semiconductor laser device according to claim 3, characterized in that wherein at least the <u>a</u> p-type contact layer of the resonator is covered by a mask.

Claim 5 (Currently amended): The nitride semiconductor laser device according to claim 3, characterized in that wherein the resonator end face window layer contains comprises at least one of the elements of Group I.

Claim 6 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the resonator active layer has a structure of a (multi)quantum-well multiquantum-well layer comprising at least one InGaN well layer or InAlGaN well layer.

Claim 7 (Currently amended): The nitride semiconductor laser device according to any one of claims 1 to 6 claim 1, characterized in that wherein the nitride semiconductor laser device structure is formed on the a substrate selected from the group consisting of a GaN substrate, preferably monocrystalline GaN substrate, sapphire substrate, spinel substrate, ZnO substrate, SiC substrate, ELOG-type substrate and a substrate provided with a nitride semiconductor having a concavo-convex face.

Claim 8 (Currently amended): The nitride semiconductor laser device according to any one of claims 1 to 7 claim 7, characterized in that wherein the nitride semiconductor laser device structure is formed on a C-plane, A-plane or M-plane of the monocrystalline GaN substrate.

Claim 9 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the nitride semiconductor laser device structure is formed on a C-plane of a monocrystalline GaN substrate and the resonator end face window layer is grown on an M-plane or A-plane.

Claim 10 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the nitride semiconductor laser device structure is formed on an A-plane of a monocrystalline GaN substrate, and the window layer is formed on a C-plane or M-plane of the a resonator radiation-emitting end face.

Claim 11 (Currently amended): The nitride semiconductor laser device according to claim 1, characterized in that wherein the nitride semiconductor laser device structure is formed on an M-plane of a monocrystalline GaN substrate, and the window layer is formed on a C-plane or A-plane of the a resonator radiation-emitting end face.

Claim 12 (Currently amended): A method for improving the performance of a nitride semiconductor laser device having a resonator including an active layer comprising a nitride semiconductor between an n-type nitride semiconductor layer and a p-type nitride semiconductor layer, in which in a first process a laser device structure is etched or cleaved and a pair of the opposite resonator end faces are formed, characterized in that and wherein

in a second process the radiation-emitting end face of said resonator is covered by a window layer of monocrystalline nitride of general formula  $Al_xGa_{1-x-y}In_yN$ , where  $0\le x+y\le 1$ ,  $0\le x\le 1$  and  $0\le y< 1$ , especially nitride of general formula  $Al_xGa_{1-x}N$  ( $0\le x\le 1$ ), having a wider energy gap than that of the active layer, at low temperature so as not to damage said active layer.

Claim 13 (Currently amended): The method for improving the performance of a nitride semiconductor laser device according to claim 12, characterized in that wherein during the second process the resonator end face window layer is formed in supercritical ammonia-containing solution.

Claim 14 (Currently amended): The method for improving the performance of a nitride semiconductor laser device according to claim 13, characterized in that wherein during the second process the resonator end face window layer is formed after at least an upper surface of resonator p-type contact layer is covered by a mask having higher or same at least an equal chemical resistance than as that of an end face window layer material in a supercritical ammonia-containing solution.

Claim 15 (Currently amended): The method for improving the performance of a nitride semiconductor laser device according to claim 14, characterized in that wherein the mask is selected from the group consisting of SiO<sub>2</sub>, Si<sub>3</sub>N<sub>4</sub>, AlN and Ag.

Claim 16 (Currently amended): The method for improving the performance of a nitride semiconductor laser device according to claim 12, characterized in that wherein the resonator end face window layer is formed by depositing the monocrystalline nitride layer in the a supercritical ammonia-containing solution at a temperature of 800°C or less, preferably 600°C or less.

Please add new claims 17-18 as follows:

Claim 17 (New): The method for improving the performance of a nitride semiconductor laser device according to claim 16, wherein said step of forming the resonator end face window layer includes depositing the monocrystalline nitride at 600°C or less.

Claim 18 (New): The method for improving the performance of a nitride semiconductor laser device according to claim 16, wherein the monocrystalline nitride has a general formula of  $\frac{\text{Al}_x\text{Ga}_{1-x}\text{N} \quad (0 \leq x \leq 1)}{\text{Al}_x\text{Ga}_{1-x}\text{N} \quad (0 \leq x \leq 1)}.$